

August 16, 2016

Tom Moe
USS Corporation
P.O. Box 417
8771 Park Ridge Dr
Mountain Iron, MN 55768

RE: Project: USS MinnTac NPDES-TB Wk1
Pace Project No.: 1271946

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on August 03, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Melisa M Woods
melisa.woods@pacelabs.com
Project Manager

Enclosures

cc: Cory Hertling
Terri Sabetti, NTS



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: USS MinnTac NPDES-TB Wk1

Pace Project No.: 1271946

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

Duluth Minnesota Certification ID's

4730 Oneota St., Duluth, MN 55807

Minnesota Dept of Health Certification #: 027-137-152

Wisconsin DNR Certification # : 999446800

North Dakota Certification #: R-105

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SAMPLE SUMMARY

Project: USS MinnTac NPDES-TB Wk1

Pace Project No.: 1271946

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1271946001	SD 001 (Seep 020)	Water	08/03/16 11:00	08/03/16 13:35

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SAMPLE ANALYTE COUNT

Project: USS MinnTac NPDES-TB Wk1

Pace Project No.: 1271946

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1271946001	SD 001 (Seep 020)	EPA 1664 TPH	BT1	1	PASI-DUL
		USGS I-3765	BEM	1	PASI-V
		EPA 300.0	CSD	1	PASI-V

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ANALYTICAL RESULTS

Project: USS MinnTac NPDES-TB Wk1

Pace Project No.: 1271946

Sample: SD 001 (Seep 020)		Lab ID: 1271946001		Collected: 08/03/16 11:00		Received: 08/03/16 13:35		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH									
		Analytical Method: EPA 1664 TPH							
Total Petroleum Hydrocarbons	ND	mg/L	3.0	1.0	1		08/05/16 16:45		
USGS I-3765 TSS									
		Analytical Method: USGS I-3765							
Total Suspended Solids	2.8	mg/L	1.0	1.0	1		08/08/16 12:45		
300.0 IC Anions 28 Days									
		Analytical Method: EPA 300.0							
Sulfate	838	mg/L	100	50.0	50		08/12/16 14:42	14808-79-8	

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QUALITY CONTROL DATA

Project: USS MinnTac NPDES-TB Wk1

Pace Project No.: 1271946

QC Batch: 90257

Analysis Method: EPA 1664 TPH

QC Batch Method: EPA 1664 TPH

Analysis Description: 1664 SGT-HEM, TPH

Associated Lab Samples: 1271946001

METHOD BLANK: 355021

Matrix: Water

Associated Lab Samples: 1271946001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.0	1.0	08/05/16 15:30	

LABORATORY CONTROL SAMPLE: 355022

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	13.7	68	64-132	

MATRIX SPIKE SAMPLE: 355023

Parameter	Units	1271673001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	1.8J	21.1	14.8	63	64-132	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: USS MinnTac NPDES-TB Wk1

Pace Project No.: 1271946

QC Batch: 90430

Analysis Method: USGS I-3765

QC Batch Method: USGS I-3765

Analysis Description: USGS I-3765 Total Suspended Solids

Associated Lab Samples: 1271946001

METHOD BLANK: 355527

Matrix: Water

Associated Lab Samples: 1271946001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	1.0	1.0	08/08/16 12:45	

LABORATORY CONTROL SAMPLE: 355528

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	239	220	92	80-120	

SAMPLE DUPLICATE: 355529

Parameter	Units	1271997001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	180	196	9	10	

SAMPLE DUPLICATE: 355530

Parameter	Units	1272004002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	114	118	3	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: USS MinnTac NPDES-TB Wk1

Pace Project No.: 1271946

QC Batch: 90849

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 1271946001

METHOD BLANK: 357343

Matrix: Water

Associated Lab Samples: 1271946001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.0	1.0	08/11/16 16:28	

LABORATORY CONTROL SAMPLE: 357344

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	50	49.1	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 357345

357346

Parameter	Units	1272058002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	31.7	100	100	131	131	99	99	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 357347

357348

Parameter	Units	1271817002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	56.4	100	100	156	155	99	98	90-110	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: USS MinnTac NPDES-TB Wk1

Pace Project No.: 1271946

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-DUL Pace Analytical Services - Duluth

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USS MinnTac NPDES-TB Wk1

Pace Project No.: 1271946

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1271946001	SD 001 (Seep 020)	EPA 1664 TPH	90257		
1271946001	SD 001 (Seep 020)	USGS I-3765	90430		
1271946001	SD 001 (Seep 020)	EPA 300.0	90849		

REPORT OF LABORATORY ANALYSIS

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SECRET

PM: MIM

CLIENT: USS CORP

weather.zika@pacelabs.com

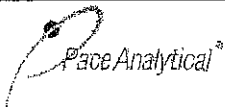
ACCEPTED MANUSCRIPT

Aditya Agency

State / Location

1 of 1

SAMPLER NAME AND SIGNATURE		
PRINT Name of SAMPLER:	<i>Paul Wright - ICE</i>	
SIGNATURE of SAMPLER:	<i>Paul Wright</i>	
DATE Signed:	<i>8-3-16</i>	
TEMP in C		
Received on Ice (Y/N)		
Custody Sealed Cooler (Y/N)		
Samples Intact (Y/N)		

	Document Name:	Document Revised: 23Feb 2015
	Sample Condition Upon Receipt Form	Page 1 of 1
	Document No.: F-VM-C-001-Rev.09	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name:

Project #:

USS CORP

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: _____

WO#: 1271946



1271946

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No Seals Intact? ☒ Yes ☐ No Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☒ Other: _____ Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140792808 Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.6 Cooler Temp Corrected °C: 2.3 Biological Tissue Frozen? ☐ Yes ☐ No ☒ NA
Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: Ty Bll 8-3-16

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>No bottles recognized on chain</u>
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>W/T</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook. <u>TB</u>	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

Maria Woods

Date:

8/4/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Intra-Regional Chain of Custody



Workorder: 1271946 Workorder Name: USS MinnTac NPDES-TB WK1 Owner Received Date: 8/3/2016 Due Date: 8/17/2016

Received at: Pace Analytical Virginia
315 Chestnut Street
Virginia, MN 55792
Phone (218) 742-1042

Send To Lab: Pace Analytical Duluth
4730 Oneota Street
Duluth, MN 55807
Phone (218) 727-6380

Report To:
Melissa M Woods

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers				EPA 1664 TPH	Requested Analysis				LAB USE ONLY
						HCL									
1	SD 001 (Seep 020)	PS	8/3/2016 11:00	1271946001	Water	3					X				
2															
3															
4															
5															

Transfers		Released By		Date/Time		Received By		Date/Time		Cooler Temperature on Receipt		Custody Seal		Received on Ice		Samples Intact	
1					8/11/16 1900					35.1	°C	Y	or N	Y	or N	Y	or N
2																	
3																	
4																	

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.



Document Name:
Sample Condition Upon Receipt Form

Document No.:
F-DUL-C-001-Rev.01

Document Revised: 22Jan2016
Page 1 of 1

Issuing Authority:
Pace Virginia, Minnesota Quality Office

Sample Condition
Upon Receipt

Client Name:

Project #:

12-COC from Virginia

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No Seals Intact? ☒ Yes ☐ No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: _____

Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ B00051

Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp Read °C: 4.5

Cooler Temp Corrected °C: 3.7

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C

Correction Factor: -0.8 °C

Date and Initials of Person Examining Contents: 8/4/16 KB

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

AP for LMF

Date:

8-4-16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)